

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 3-7 and 51-53 have been amended, claims 70-73 have been canceled, without prejudice or disclaimer, and new claims 74-87 have been added. No new matter is submitted.

Claims 3-7, 51-53, and 74-87 are pending and under consideration.

DECLARATION UNDER 37 CFR 1.132

A Declaration by an inventor will be filed concurrently herewith, or shortly hereafter, where the inventor details that:

"[T]he references, individually or as combined with any of the cited references, would not render Applicants' claims, reciting at least a transport stream aspect, anticipated or obvious because one of ordinary skill in the art would have understood the references as being directed to a seamless playback aspect of program streams. That is, one of ordinary skill in the art would have understood Mori et al. and Okada et al. to disclose a seamless playback operation of program streams within a decoder, as clearly illustrated by use of terms such as SRC, VTS, VOBS, and VOB for a DVD system associated with program stream art."

In reviewing the below remarks, as well as above amendments, applicants respectfully request these comments be taken into consideration in further understanding the disclosures of the cited references and the patentable differences between the same and the presently claimed invention.

REJECTION UNDER 35 USC 112

Claims 3-7 and 51-53 stand rejected under 35 USC § 112, second paragraph, as being indefinite since the claims fail to set forth a positive step to accomplish seamless reproduction of a data stream.

Correctly, the Office Action has interpreted claims 3 and 4 as not requiring seamless reproduction of the respective data streams. Rather, both claims are directed toward the generation of additional information for guaranteeing seamless playback, and should not be required to include a reproduction operation. Regardless, both claims 3 and 4 have been amended to at least require a positive operation of outputting a corresponding generated data

stream information to a medium.

Similarly, new independent claims 78, 82, 84, and 86 also include at least a positive operation of reproducing two or more data streams based on a claimed generated data stream information.

Further, it is noted that independent claims 51-53 already at least set forth "generating seamless playback of two or more data streams," which is a positive operation requiring the reproduction of respective data streams.

Therefore, with all independent claims including positive operations, it is respectfully submitted that the independent claims are clear and distinct. Withdrawal of this rejection is respectfully requested.

REJECTIONS UNDER 35 USC 102

Claims 3-7 and 51-53 stand rejected under 35 USC § 102(e) as being anticipated by Yoo et al., U.S. Patent Application Publication 2002/0150392. This rejection is respectfully traversed.

The Office Action indicates that Yoo et al. discloses all the claimed features of independent claims 3-4 and 51-52. Applicant respectfully disagrees.

All independent claims, including the newly added independent claims, make specific reference to the seamless playback of at least two data streams, and the claimed data stream information being timing information linking the two data streams.

For example, independent claim 3 sets forth "the data stream information including seamless time control information and seamless playback information, which indicates whether a corresponding data stream is to be seamlessly reproduced after playback of a preceding data stream, or the seamless time control information, without the seamless playback information, to control an output time of the corresponding data stream to be seamlessly reproduced." Thus, the data stream information is information related to a subsequent data stream that is to be seamlessly reproduced after a previous data stream.

Further, independent claim 3 further details that: "the seamless time control information includes a reference time with the reference time being an output time of a first packet data of the corresponding data stream to be seamlessly reproduced." Again, it is clear from the claim recitations that the independent claims are claiming at least timing information between two data

streams.

Conversely, Yoo et al. sets forth a correction technique for correcting for timing errors between data packets for a data stream. Yoo et al. details in paragraph [0015], "the transport stream is required to contain a PCR that has a frequency tolerance of 30ppm (parts per million). If the time intervals between transport stream packets are drastically distorted by the IEEE-1394 isochronous bus, the required frequency tolerance may not be guaranteed."

Thereafter, beginning in paragraph [0035], Yoo et al. sets forth: "[t]o solve such a problem, stream recording unit 230 compensates the arrival time of each transport stream packet using a compensation method to be explained in detail below and records the transport stream...after adding a transport time reference corresponding to the compensated arrival time of each transport stream header....A stream reproducing unit 260 retrieves the original transport stream from streamer 200 and outputs the transport stream to a digital transport processing unit 270. Receiving the retrieved transport stream, a digital processing unit 270 of the streamer 200 extracts transport stream packets from the transport stream and adds a 4-byte transport header having a time stamp of a clock of 24.576 MHz to each extracted transport stream packet.... Then the transport stream packets are transmitted through the IEEE-1394 isochronous bus to set top box 100, the transmission of the transport stream packets being synchronized with the transport time reference values of the transport stream."

Thus, Yoo et al. sets forth a synchronization technique for a single data stream to correct for timing errors deriving from transmitting the "data packets" of the data stream through an IEEE-1394 isochronous bus. Yoo et al. at least fails to disclose the claimed data stream information for each of two more "data streams", as claimed.

Therefore, for at least the above, it is respectfully requested that this rejection be withdrawn.

Claims 3-7 and 51-53 stand rejected under 35 USC § 102(e) as being anticipated by Mori et al., U.S. Patent No. 5,854,873. This rejection is respectfully traversed.

The Office Action indicates that Mori et al. sets forth all the claimed features of the independent claims. Applicants respectfully disagree.

It is briefly noted that the independent claims 3, 51, 52, and 53 have been amended to

clarify that the claimed data stream information at least includes seamless time control information. In addition, it is respectfully submitted that Mori et al. at least fails to disclose the claimed seamless time control information, as claimed.

Mori et al. appears to explain a technique for synchronizing different streams during the encoding of the streams, in col. 33, line 23 through col. 35, line 12; col. 41, line 52 through col. 42, line 20; col. 46, line 50 through col. 56, line 22.

Here it is noted that Mori et al. references an audio start gap, which is the difference between the video encode start time and the audio encode start time, and an audio end gap, which is the difference between the video encode end time and the audio encode end time, in col. 45, line 59 through col. 46, line 15. These start and end times are not the same as the claimed reference time, offset time information, or gap length information, which are particularly defined as being dependent on the arrival time information for each stream's packets. Further, the audio start gap and the end gap are for synchronizing the audio and video within a stream, rather than synchronizing audio and video between streams.

Mori et al. further details the decoding of the above referenced encoding, beginning in col. 54, line 24. Here, again, the conventional method of playing back data streams is discussed. See Mori et al. in col. 54, lines 62-67; col. 55, lines 30-34; and col. 56, lines 43-59. Again, Mori et al. would not appear to disclose the particularly claimed seamless time control information in the decoding of data streams.

Mori et al. would only appear to disclose decoding of data streams based on start time stamps (presented time stamp) or decode time stamps and the system clock of the decoder matching these time stamps, i.e., each data packet is decoded and output based upon the system clock matching the time stamp of that data packet. Mori et al. would not appear to disclose the claimed seamless time control information being further used, in addition to a time stamp, to guarantee seamless operation, again noting that the claimed seamless time control information is based on a time stamps of preceding data stream and a corresponding data stream, and potentially the difference thereof.

Therefore, for at least the above, it is respectfully requested that this rejection be withdrawn and these claims be allowed.

Claims 3-7 and 51-53 stand rejected under 35 USC § 103 as being obvious over Okada et al., U.S. Patent No. 6,181,870, in view of Prior Art, the cited background of the present application. This rejection is respectfully traversed.

The Office Action indicates that Okada et al. discloses all the claimed features except for the claimed arrival time stamps added to the data packets. Applicants respectfully disagree.

It appears the rejection of claims 3-4, 51 and 52, relied only on the related independent claims then providing alternative language "and/or" regarding the claimed inclusion of the claimed seamless time control information. These independent claims have been amended to at least require this claimed feature. Therefore, it is respectfully requested that this rejection be withdrawn.

Regarding claim 53, the Office Action further indicates that Okoda et al. includes the claimed gap length time being "an amount of time from an output time of a last packet of the preceding data stream to a time at which a first packet of the corresponding data stream to be seamlessly reproduced must be output." Similarly, the Office Action indicates that Okoda et al. sets forth that each of the data streams include a plurality of packs, each pack including the packet data to which information on the arrival time of the respective packet data is added, and an extra header which is added to the packet data with arrival time information." Applicant respectfully disagrees.

In Okoda et al., after a re-encoding of selected first and second VOBs, seamless timing information is stored in an RTRW management file, with the seamless time information including start and end times for a first VOB and start and end times for a second VOB. Thereafter, when decoding the now linked first and second VOBs, an offset can be derived from the end time of the first VOB and a start time of the second VOB. This offset can be added to the standard time so the added standard time equals the start time of the second VOB. See Okoda et al. in FIG. 12A; col. 26, lines 6-59; col. 37, line 33 through col. 43, line 28.

It is first noted that the independent claims particularly detail that the seamless time control information is a reference time, offset information, and/or gap information, while Okoda et al. only stores start times and end times of VOBs and relies on an encoder and decoder to derive the same.

Secondly, as detailed in the present application, "[a]s shown in FIG. 11, after outputting a first data stream, SOB 1, without reset of a counter, an offset (=1005-10=995 in FIG. 11) is

added to original ATSs of a second data stream, SOB 2, so as to perform seamless playback of SOB 2. Alternately, a counter is reset to a value of the ATS of the first packet of SOB 2 at a RT which is later than an ATS of the last packet of the SOB 1 by a gap length ($=1005-1000=5$ in FIG. 11) so as to perform seamless playback of SOB 2."

Thus, in the present application, when an offset is used, the offset is added to the original AFSs, without a clock reset, for seamless reproduction, and a reference time and gap length are used to set the clock time, when the clock is reset.

Therefore, the separately claimed offset, reference time, and gap length are not disclosed or suggested in Okoda et al. as being stored in a seamless time control information, and further, the techniques for accomplishing seamless reproduction between Okoda et al. and the presently claimed invention are different, e.g., although they both reference "offset" it is obvious from the above that the terms do not have the same meaning.

With Okoda et al. at least failing to disclose these claimed features, it is respectfully submitted that the combination of Okoda et al. and Prior Art accordingly fail to disclose the presently claimed invention. Withdrawal of the outstanding rejections is respectfully requested.

In addition, for at least the above, it is respectfully submitted that new claims 74-87 are equally in proper condition for allowance.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

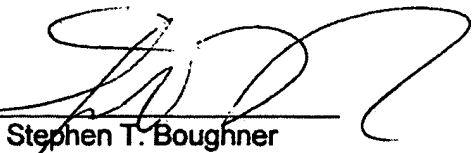
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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